

Using Game Maker 8: Turning the Simulation into a Game

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Let's Have the Fire Obliterate Something

Define Another Sprite: Resources→Create Sprite

burger = **Sprites** → various → **Burger.ico**

Define Another Sound : Resources→Create Sound

Zap = **Sounds** → zap.wav

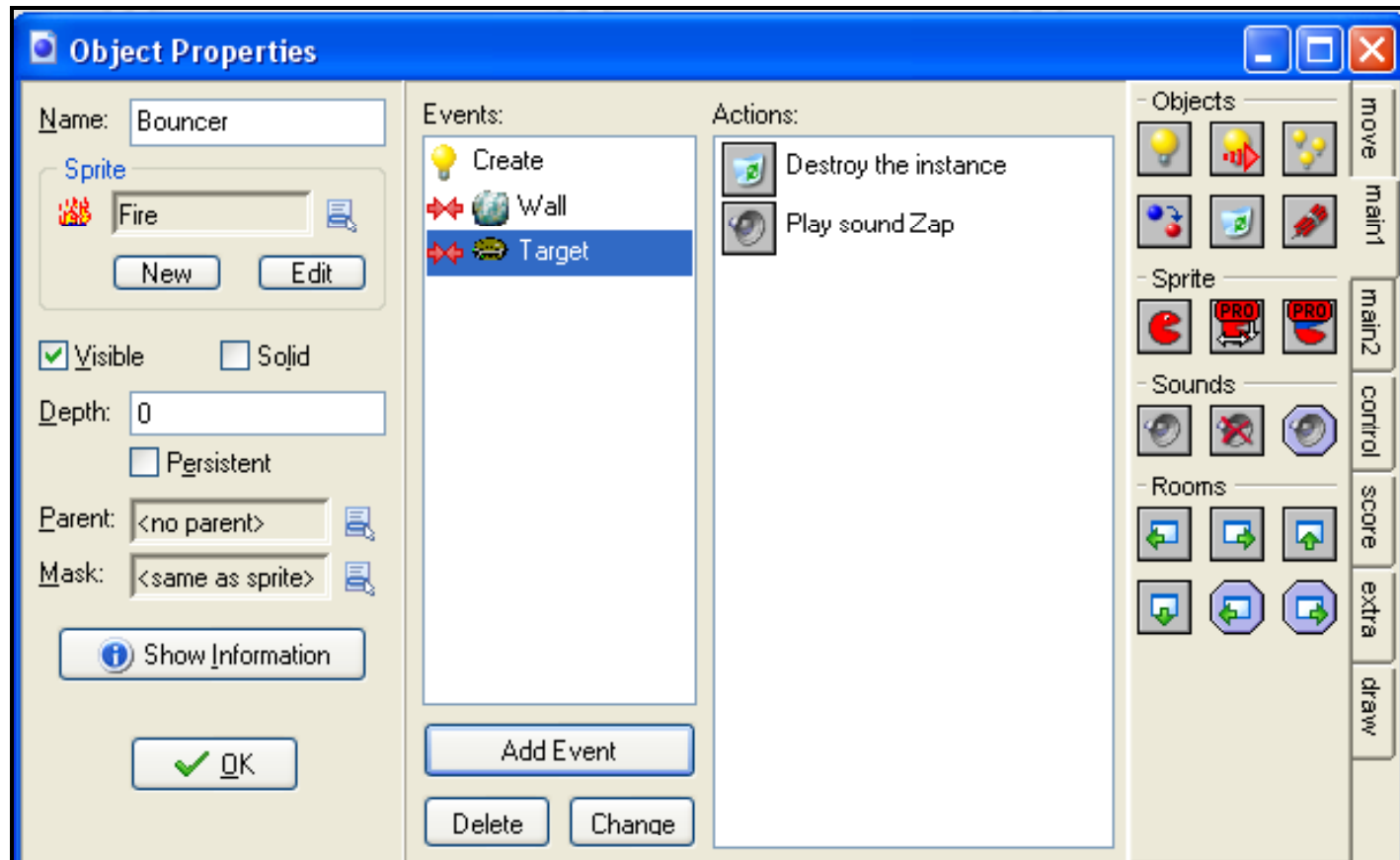
Define an Object called “Target”: Resources→Create Object

Use the burger sprite

Doesn't need to be solid

The Target object doesn't need any events, we'll let the fire do the obliterating

Add Another Event to the Bouncer Object



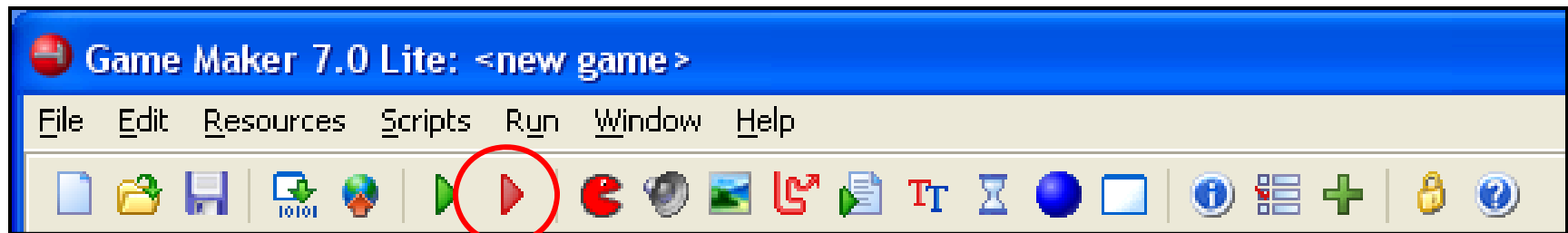
1. **main1**→**Destroy Instance**: Other
2. **main1**→**Play Sound**: Zap, false

→ "Other" is one of those special names. It means the object involved in the collision that is not "Self".

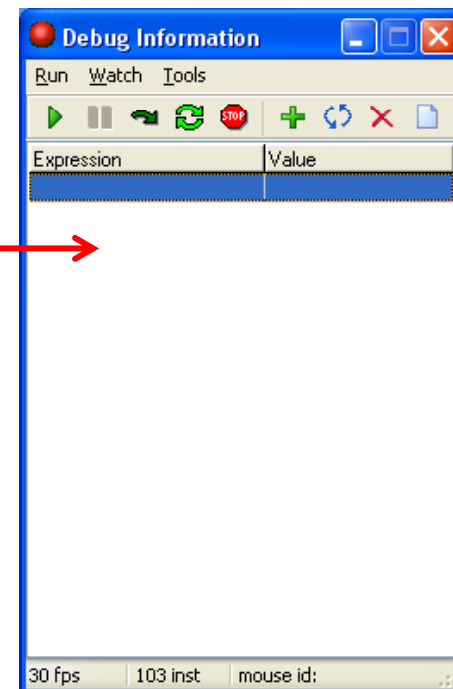


Running the Simulation in Debug Mode

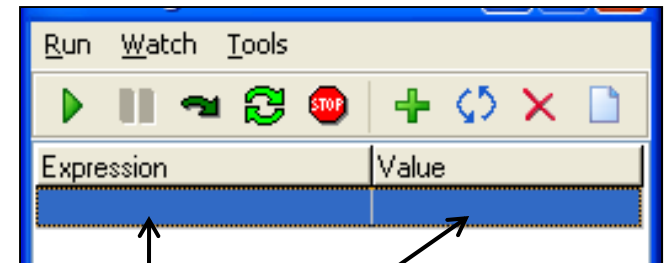
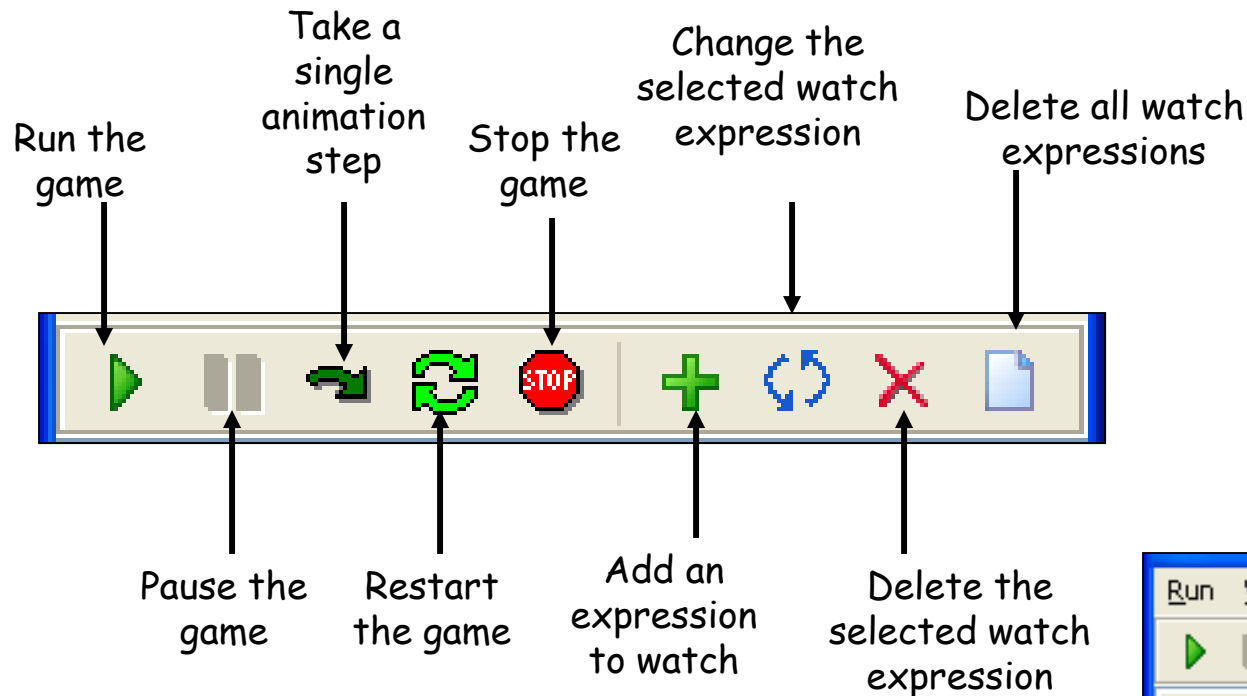
Click the **red triangle arrow** in the titlebar



This brings up a new
information window



Running the Simulation in Debug Mode



If you setup "watch expressions", they will display here

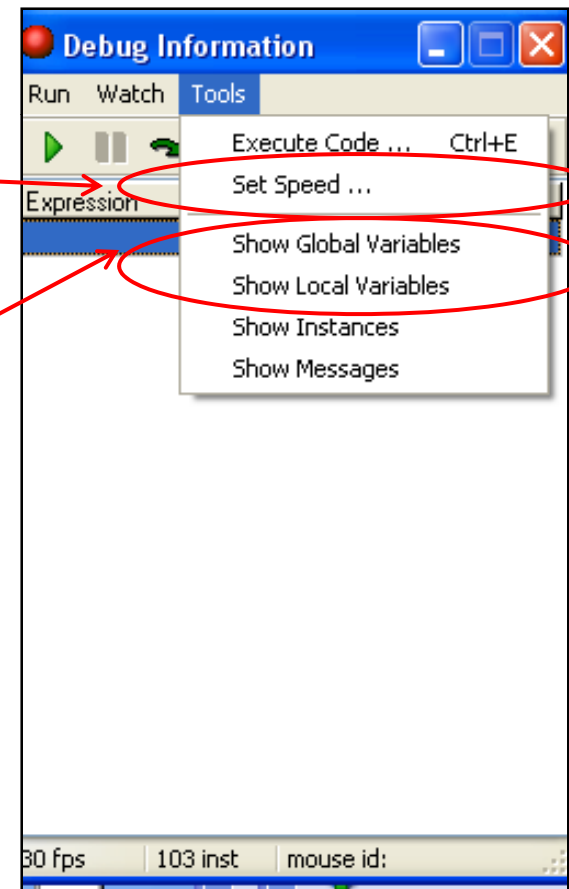
(If you want to experiment, try a watch express of: **mouse_x**)

Running the Simulation in Debug Mode



Normally, Game Maker tries to run your game at a refresh rate of 30 frames per second ("fps"). You can change that here to slow down the game play. This is useful for debugging, so that you can get a better idea what is going on.

These are useful for debugging, especially if you are using scripts



Turning the Simulation into a Game

1. Much of the time, simulations are passive, that is, we watch the world progress. If the goal is a game, we need to add some user interaction, including a way for the user to score points.
2. Let's get rid of a wall so the Bouncer can leave the room.
3. Let's also add a paddle for the for the user to try to keep the Bouncer in play.

One More Sprite: Resources→Create Sprite

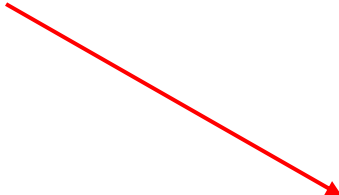
paddle = **Sprites** → breakout → bat1.gif

One More Sound: Resources→Create Sound

LeftRoom = **Sounds** → beep7.wav

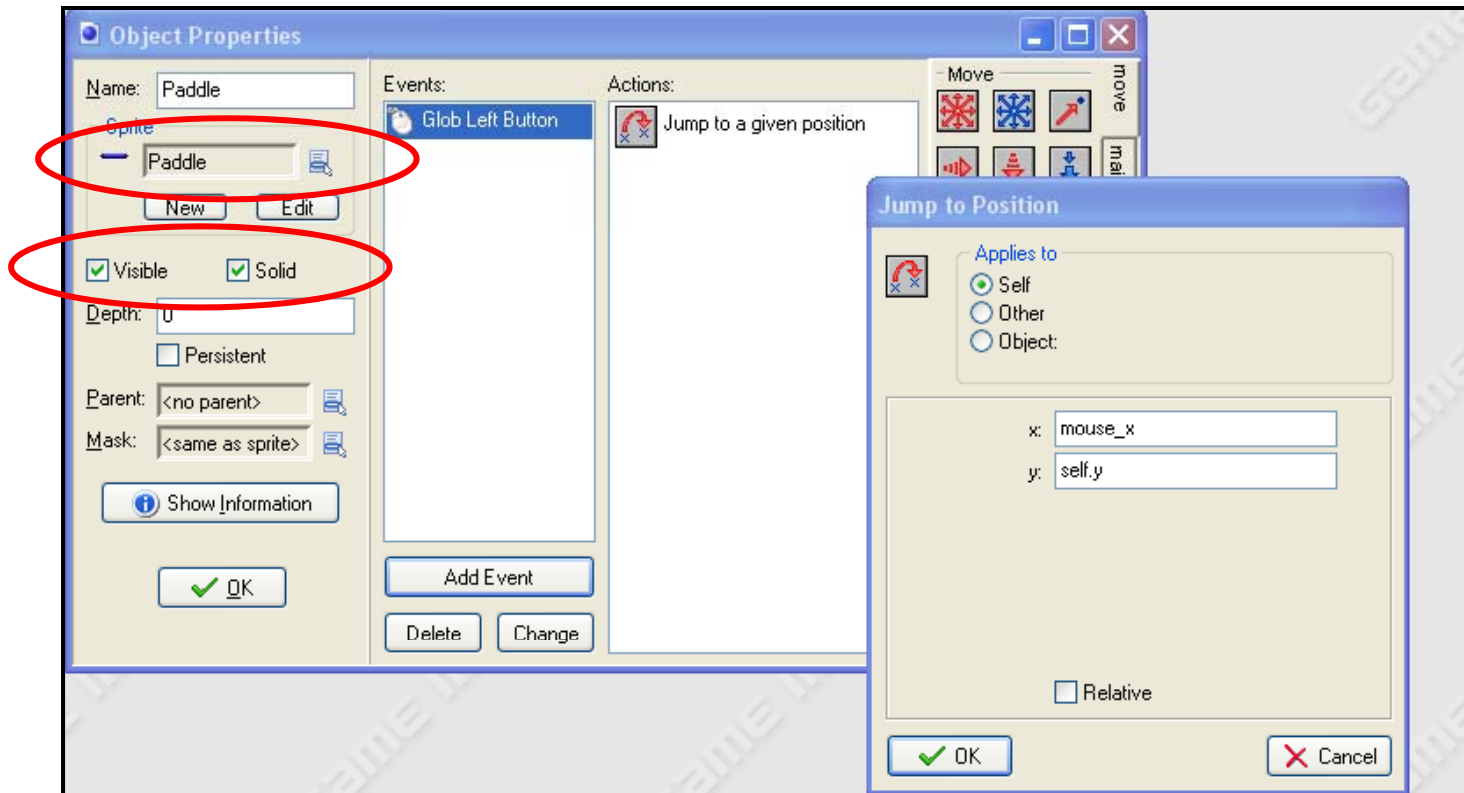
Another Object: Resources→Create Object

Paddle = **Paddle sprite, Solid**



The paddle is "Solid" because something (the Bouncer) will bounce off of it

The Paddle Object Needs to Follow the Mouse X Coordinate



move→**Jump to Position:** Self, mouse_x, self.y

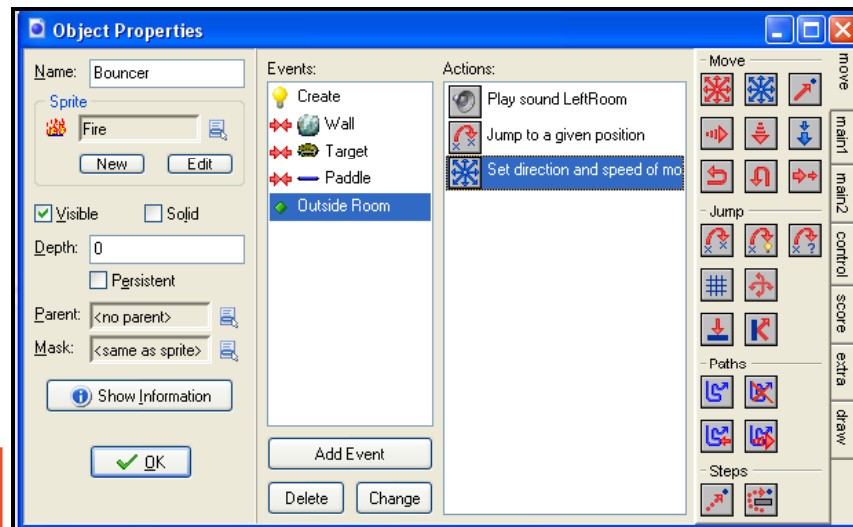
Note that the mouse x location is "**mouse_x**", *not* "**mouse.x**"! This is because the mouse is not an object. It is just an input device with some values that your game has access to.

The Bouncer Object Needs to Bounce off the Paddle Object

1. move→Bounce: Self, not precisely, solid objects
2. main1→Play Sound: Bounce

Something Needs to Happen if the Bouncer Leaves the Room

1. main1→Play Sound: LeftRoom
2. move→Jump to Position: Self, Paddle.x, Paddle.y - 50
3. move→Move Free: Self, 45+random(90), 8

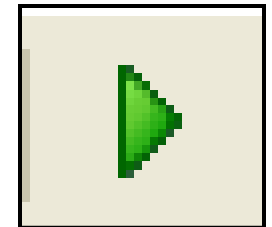


Warning: Game Maker defines +Y as *down* ! "Paddle.y-50" is *above* the paddle.



Adjust the Room

1. Add the Paddle
2. Remove a wall of rocks



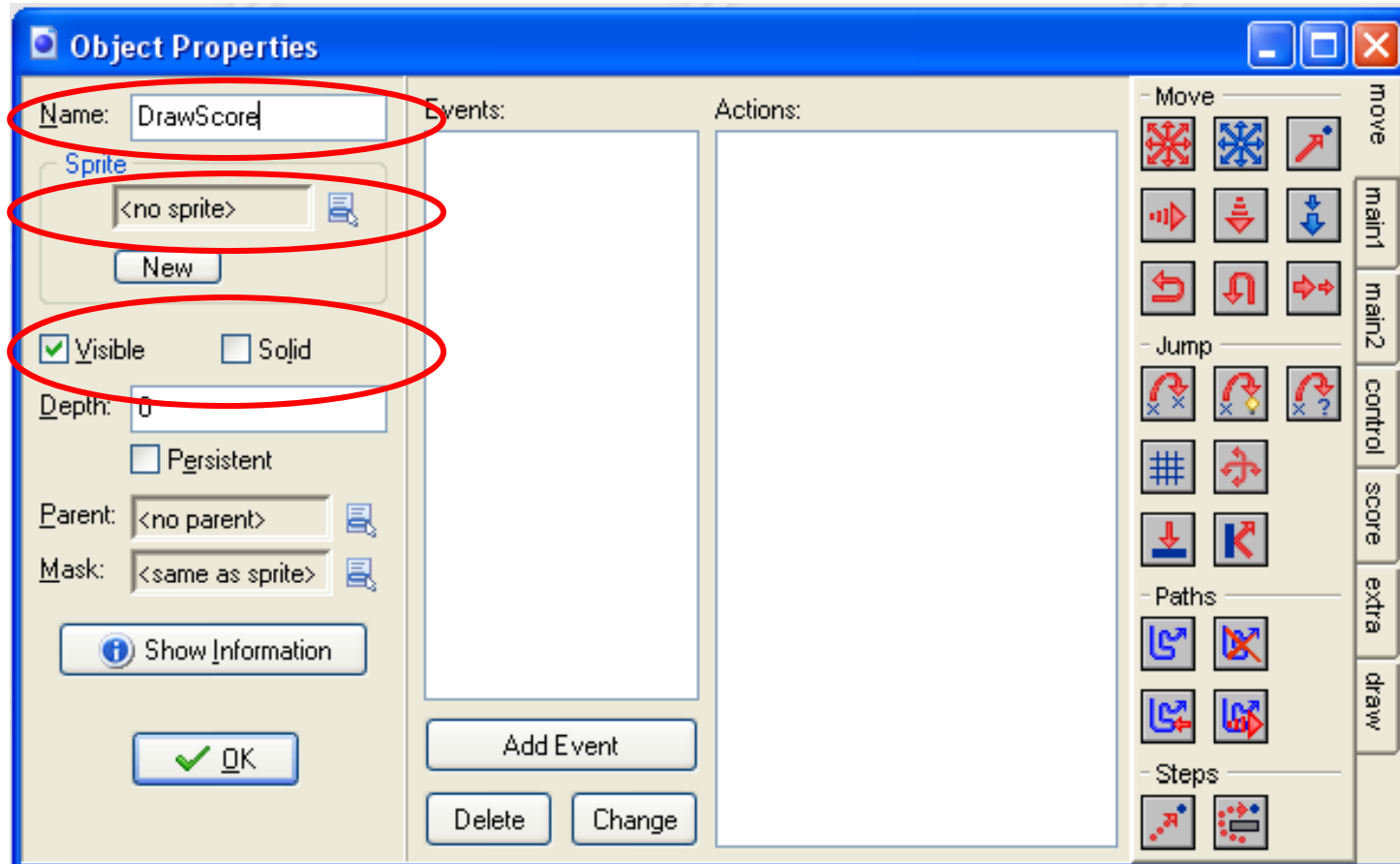
Score a Point for Every Burger Obliterated

Add to the Bouncer-Target Collision Event:

score→**Set Score: 1, Relative**

This is like saying "Score = Score + 1"

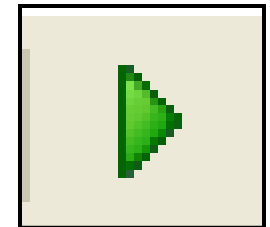
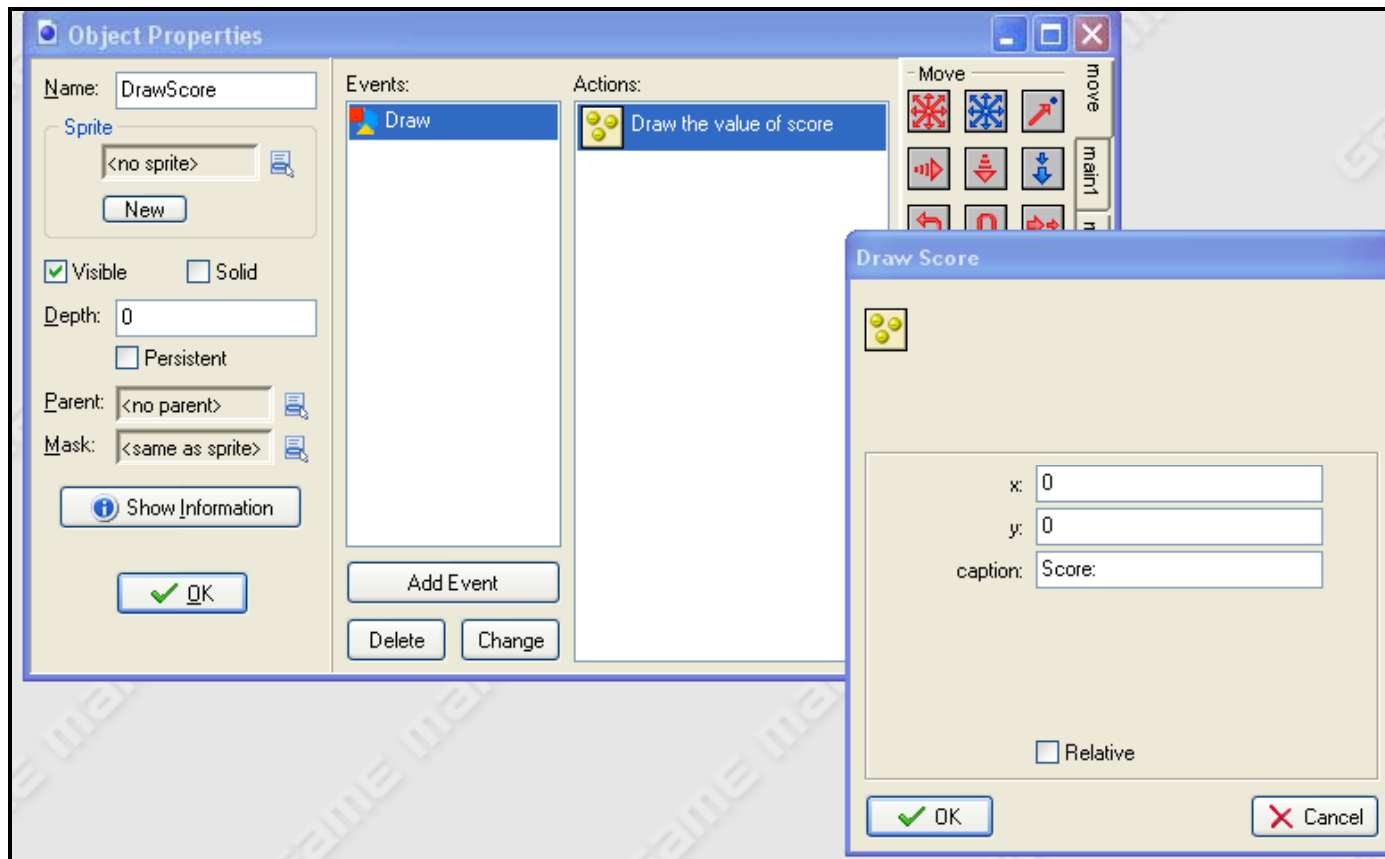
Define the DrawScore Object: Resources→Create Object



Score a Point for Every Burger Obliterated

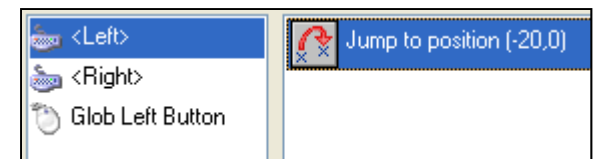
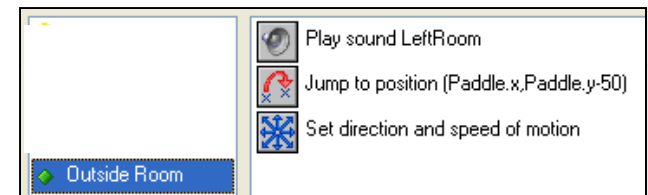
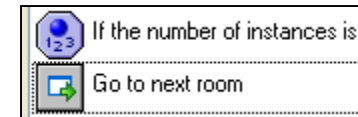
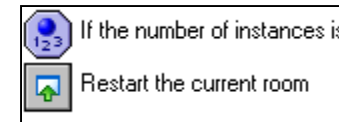
Add a Draw Event to the DrawScore Object:

score→**Draw Score, 0, 0, Score**

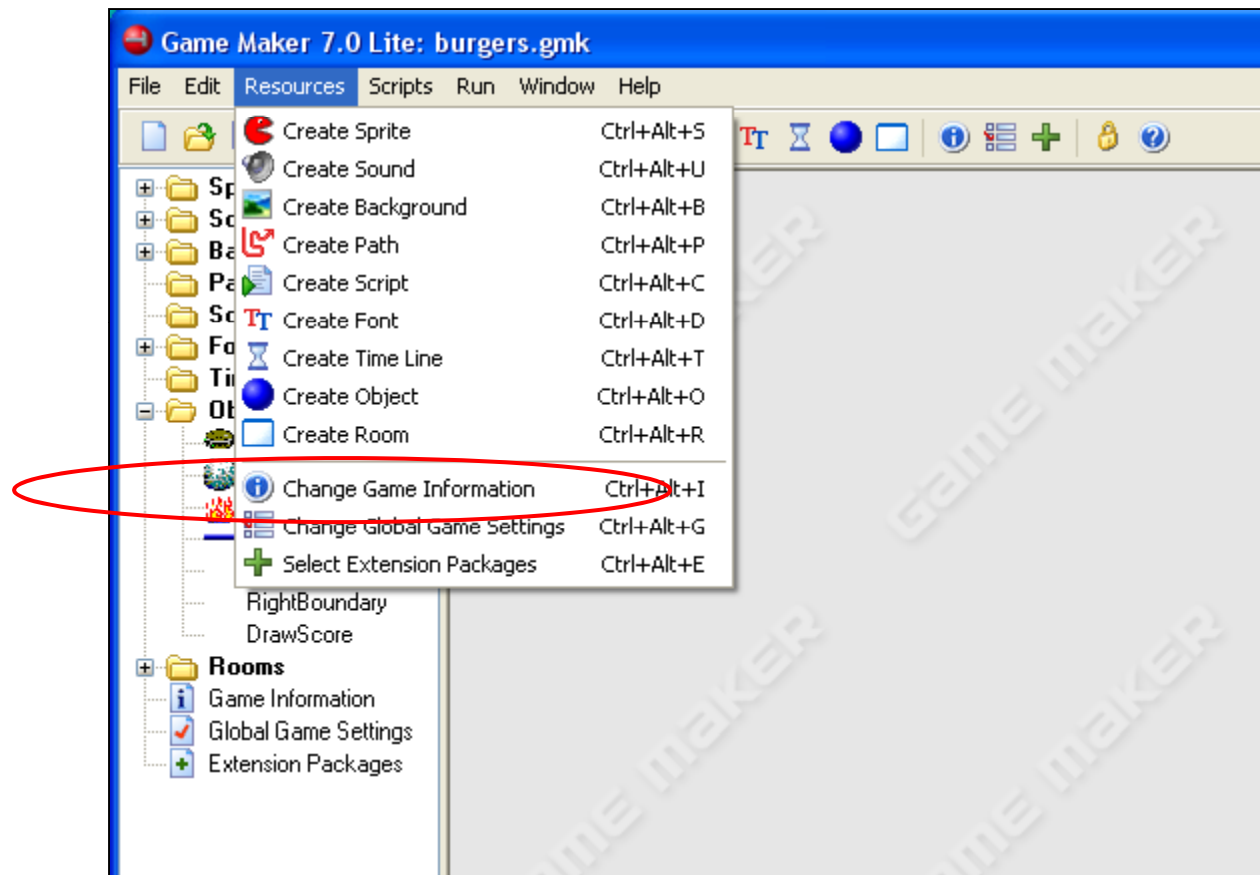


What Else Could You Add?

1. Check the Instance Count of the Targets, and Restart the Room if it goes to 0
2. Check the Instance Count of Targets and go to the next (more difficult) room if it goes to 0
3. If the Paddle misses the Bouncer, subtract something from the Score
4. Move the Paddle with the Arrow Keys instead of (or in addition to) the mouse. (Hint: Use Keyboard→<Left> and Keyboard→<Right> as the Events. Use Jump to Position with relative movement for the Action.)
5. If the Paddle hits the Bouncer, increase the Bouncer's speed a little to make it harder to hit with the Paddle
6. What else?

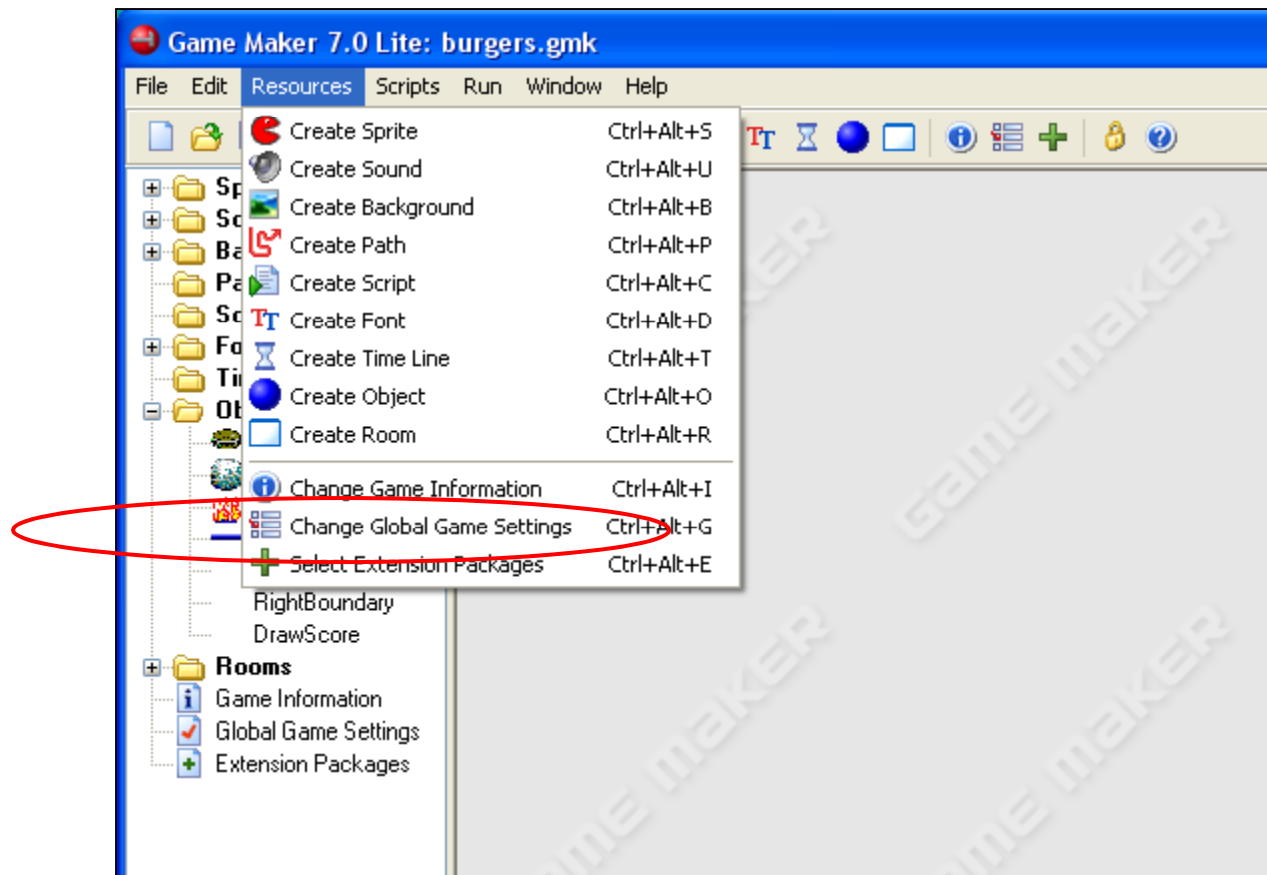


Setting your Game Information



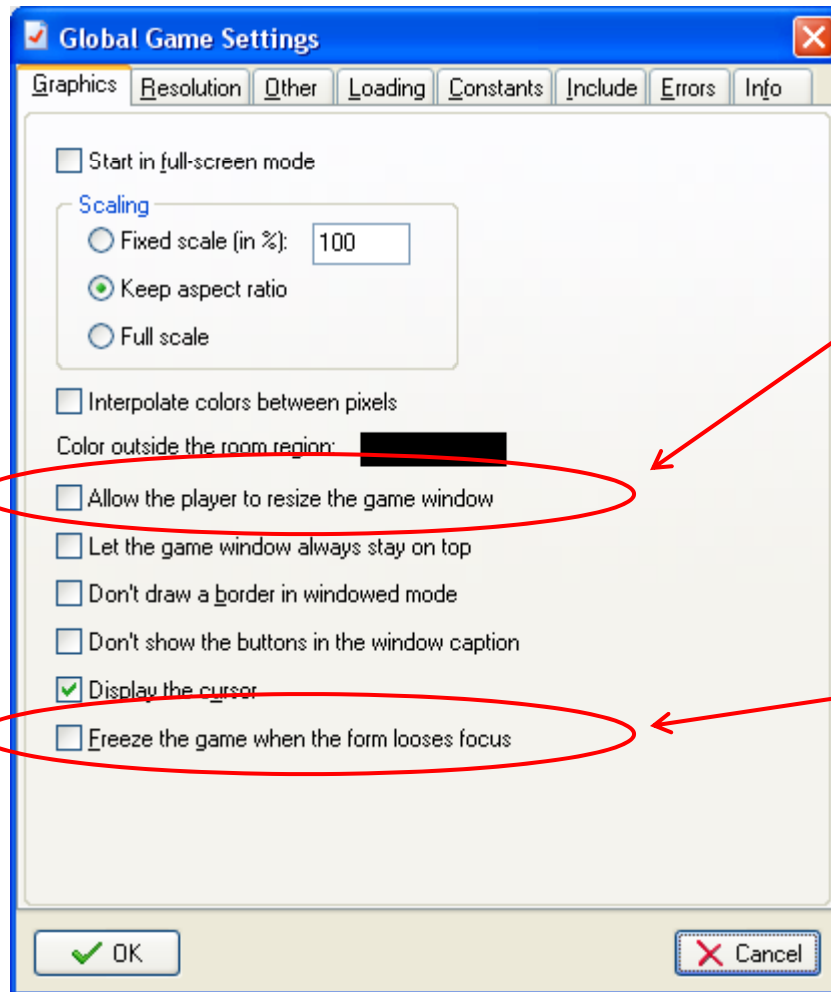
Double-click on this and enter some information. This will be shown if the player hits the <F1> key while playing your game.

Setting Global Information about Your Game



Double-click on this and a tabbed dialog box will pop up. See the next few slides to see what you can do with this.

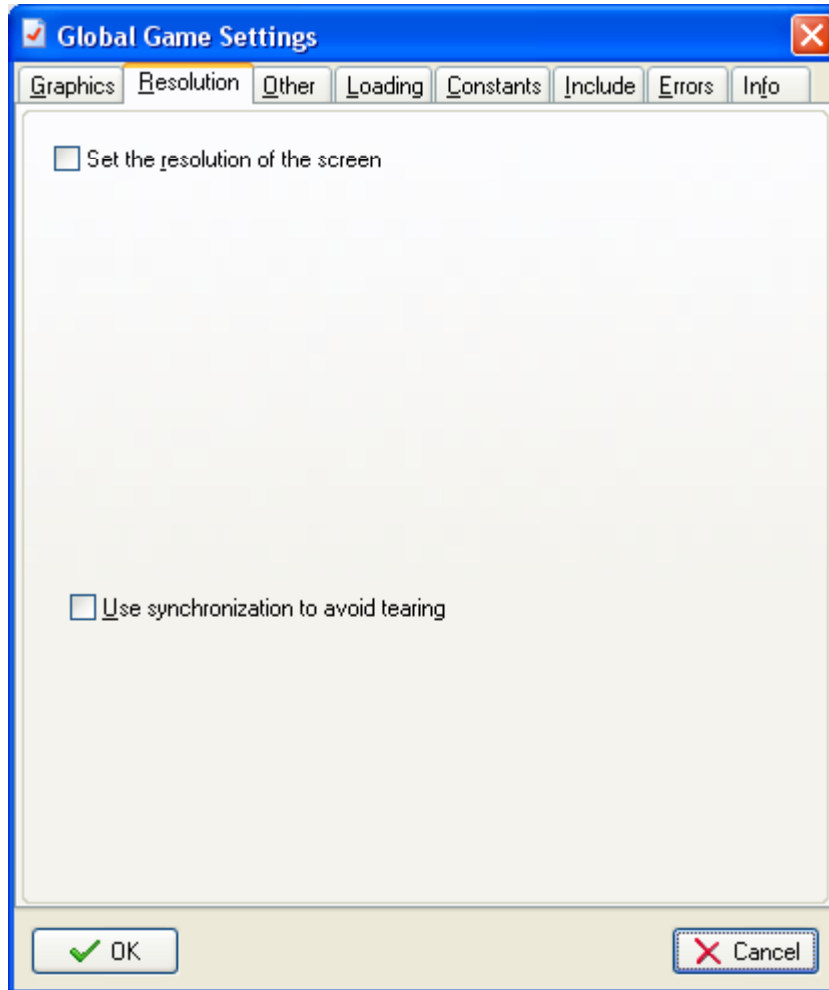
Setting Global Information about Your Game



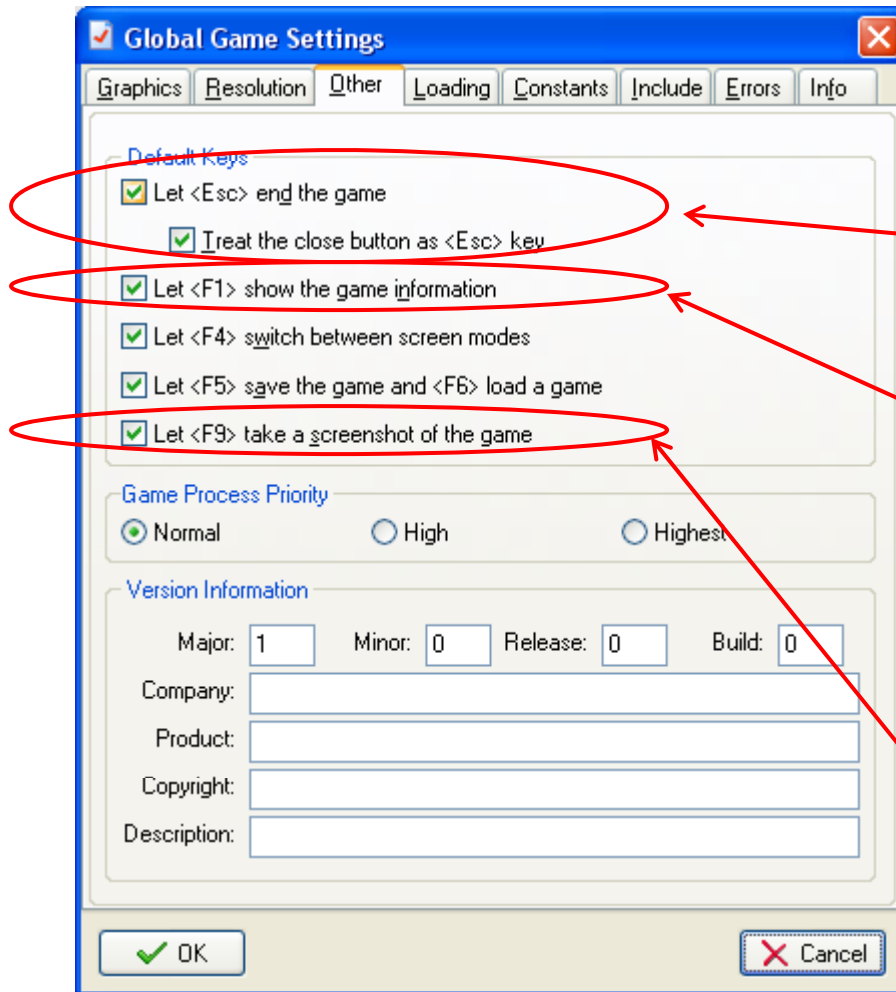
Do you want the player to be able to resize the graphics window?

Do you want the game to keep playing or freeze if you click in another window?

Setting Global Information about Your Game



Setting Global Information about Your Game

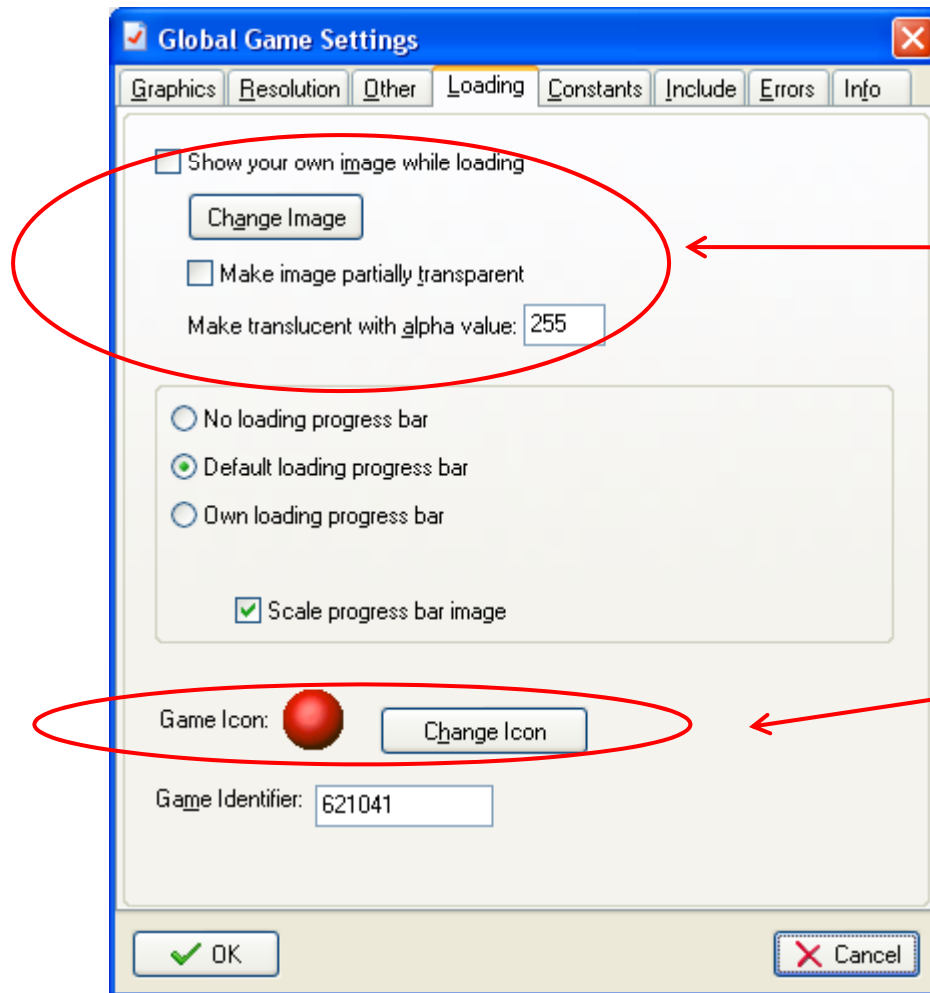


Normally the Escape key terminates the game. However, you can disable this if you want. At times this is useful if you want to force the player to save the game before exiting.

Yes, of course you want <F1> to show your game information.

This feature is *really* handy, so of course you want it enabled! Hitting the <F9> key while playing the game will put an image of the current state of the game in a file called screenshotXXX.bmp, where XXX is 100, 101, 102, etc. The files live in the same folder where your game .gmk file lives.

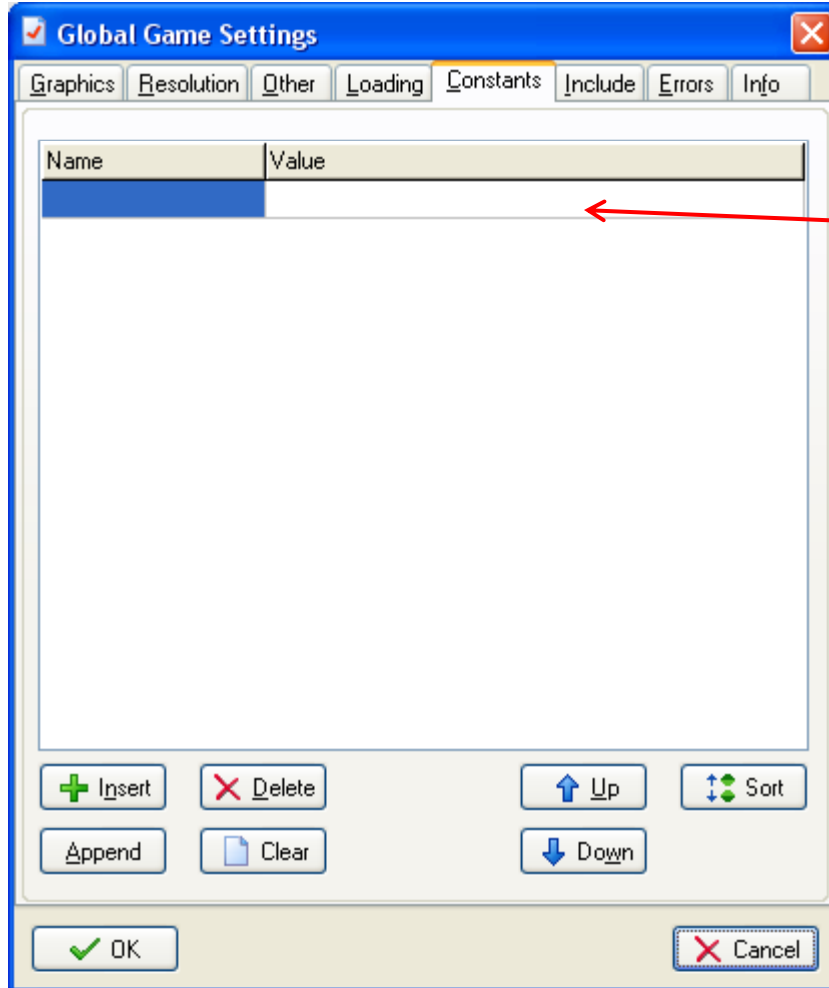
Setting Global Information about Your Game



By default, the YoYo Games logo displays during loading. You can change this to something of your own. This image can be one of around 30 different image file types.

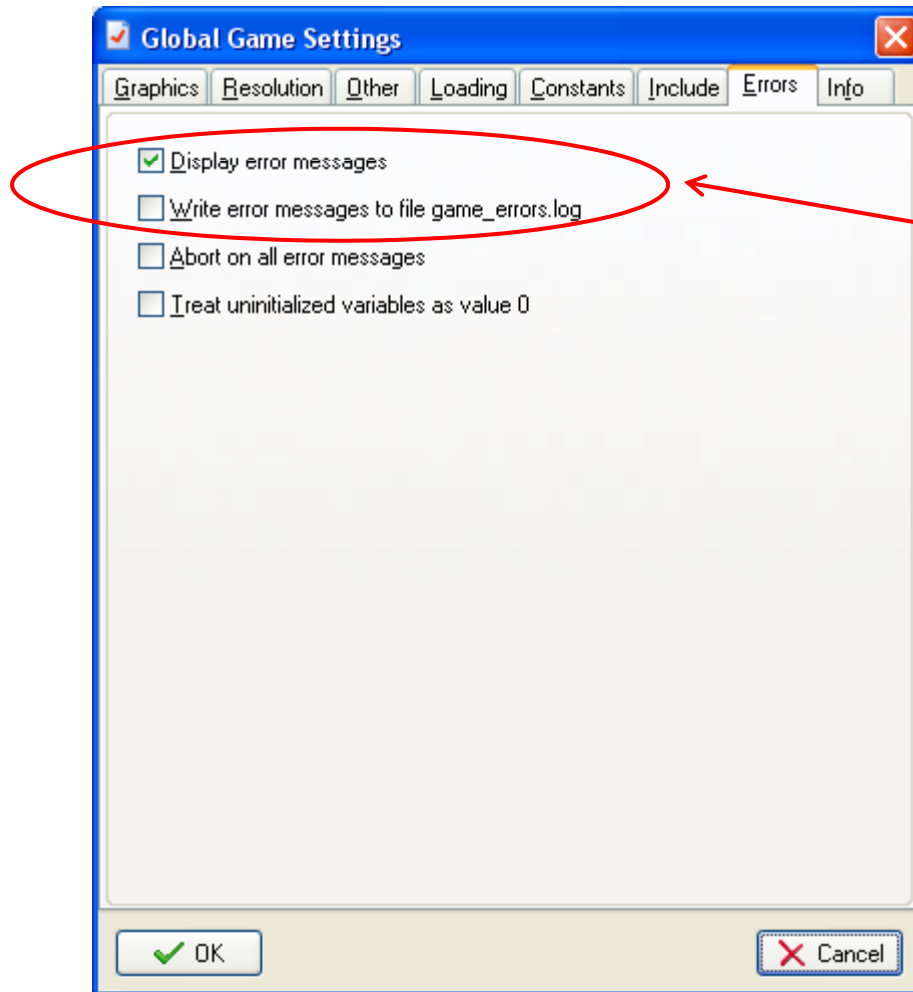
You can assign your own game program icon! This image must be in .ico format however. Many image manipulation programs are capable of producing this. Sadly, Photoshop doesn't appear to be one of them.

Setting Global Information about Your Game



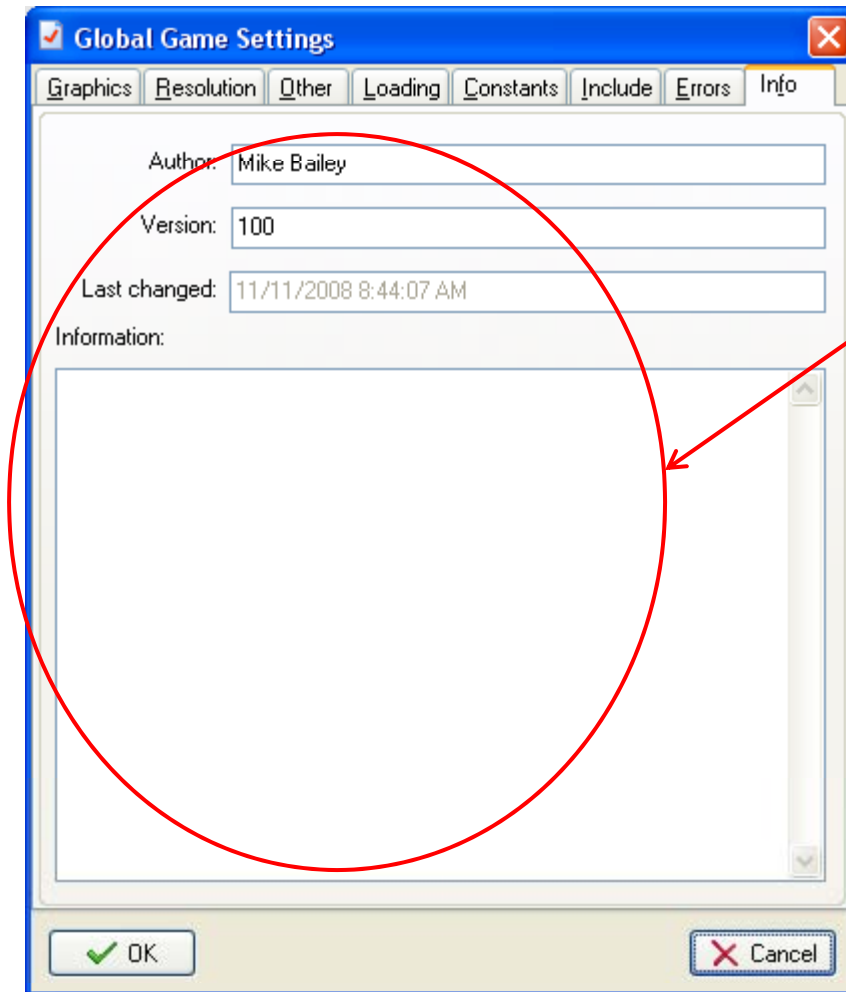
You can pre-define some constants, such as how many of something will be in your game, etc. This is probably more useful when you are writing scripts.

Setting Global Information about Your Game



Of course you want to see error messages! If you really care, you can also record them to a file for further examination or printing.

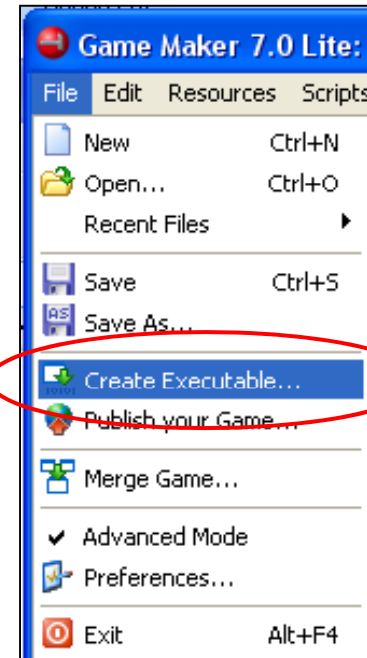
Setting Global Information about Your Game



This is more program info. This is not the same as the information that will come up when a player hits the <F1> key.

Sharing Your Game with Others

Click **File**→**Create Executable**



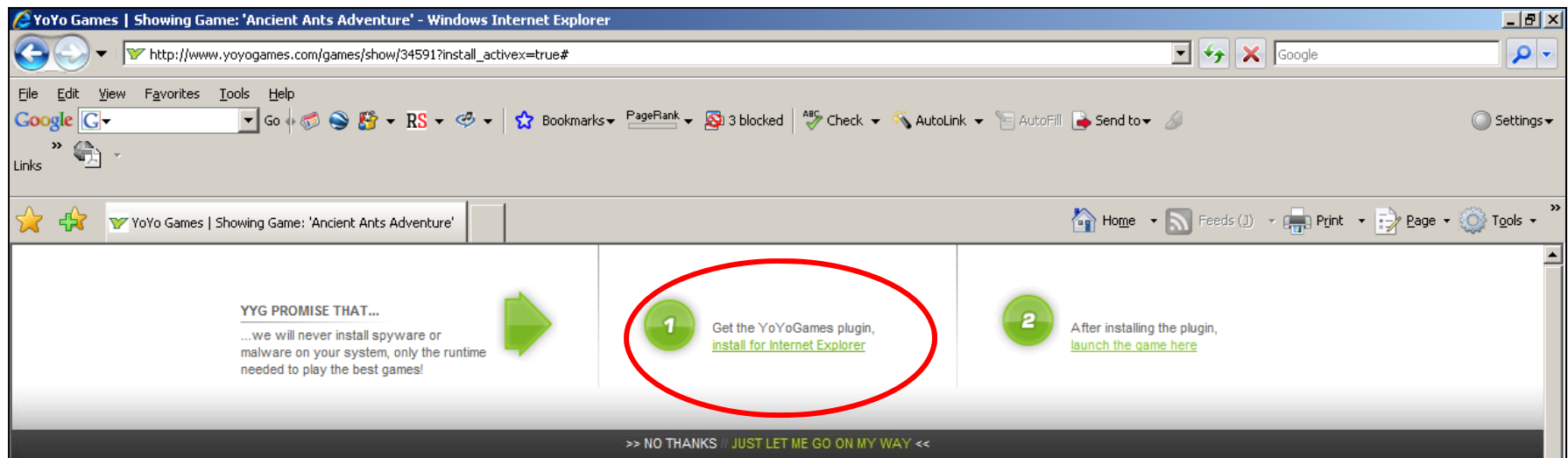
This creates a file with a **.exe** extension. This can be given (email, web page posting, memory stick, etc.) to others.

However, there is the usual warning about running a .exe file sent to you from an untrusted source!!

It's safer to send around .gmk files and read them into Game Maker !

You can also embed your game in a Web Page

You need to load a YoYo Games Internet Explorer plug-in to make this work



Game Creation Basics

From The Game Maker's Apprentice:

- Provide clear, achievable goals
- Give feedback on the player's progress
- Include both short-term and long-term goals
- Add difficulty levels and optional sub-goals for players of different abilities
- Reward the player for achieving goals and sub-goals
- Reward the player randomly
- Give the player choices that make a real difference in the game
- Don't confuse the player with too many controls
- Don't punish the player for things outside of their control
- Avoid unfair setbacks
- Give the player audio feedback about their interactions with the game

And, then one that I've always heard:

- Make the game easy to learn, but hard to master.